

acknowledge, is found in the sense of hearing, which he believes to be dull, but which is in reality abundantly acute. Shall we account for all the apparent *defect of memory* by this imperfect perception? The *less vivid* the impression made on the material organ of thought, the *less permanent* it will be of course. How then shall we explain the difference between the various sets of objects presented to him. *Words* were most frequently forgotten or mistaken. *Numbers* almost always promptly comprehended and recollected. Is it because the idea of a number—the impression made by it on the brain is more intense—more clear—more deeply stamped than that of a word, as a figure of definite form, and bounded by lines and angles of mathematical precision, is more distinctly and easily remembered than an uncertain shape or a shadowy outline.

Charleston, Nov. 1830.

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ART. VIII. *Observations on Delirium Tremens*. By SAMUEL JACKSON,  
M. D. of Northumberland.

**T**HERE is not a more fruitful source of perpetual error than a mistaken diagnosis; it confounds the physician, destroys the patient, and is finally transmitted through the press to the confusion and destruction of multitudes through many generations. To this source, it may be fairly presumed, the various contradictory reports on the efficacy of many therapeutic methods, are to be mainly attributed, as also that principal opprobrium of the medical art, its uncertainty and apparent caprice. Having sometimes failed in our own diagnosis, we shall endeavour to point out the reason of this for the benefit of others; and if we make it appear that physicians of the highest reputation have equally blundered in similar cases, our little paper will prove of the greater utility.

Where we learned the true principles of treating delirium tremens is not now recollected; we brought it into practice from the University, and it was therefore most probably derived from the lectures of Dr. RUSH. Certain it is, that some of these unfortunate *tremblers* were among our first patients, and we clearly recollect having treated them successfully with opium, camphor, wine, and nourishing diet. One case, to which we were called in consultation in the spring of 1813, had been induced in an habitual drunkard by abstinence and a copious epistaxis. The physician in attendance, though recently and

regularly educated in the University of Edinburgh, did not understand the disease; hence he had blistered the patient's whole head and a large portion of his back without any benefit. This patient was soon cured by opium, beef soup, and wine. Since this time we have treated certainly far above two hundred cases of this disease, some of them very frequently occurring in the same persons. Of these, whatever the exact number, we have lost but three, of whom, one had been dyspeptic for many months; the second was found, by Dr. RODRIGUE and myself, to have had *ramollissement* of the stomach to such a degree that about eighty square inches of this organ were totally gone, except the peritoneal coat, and this was so rotten as to be easily torn into shreds with the slightest force; the third I lately attended in consultation with Dr. ROBINS, of Sunbury, and was not able to account satisfactorily for his unexpected death.

Such has been our experience, and such our success in this disease, both which we have thought it necessary to set forth, in order that what we have to say on the subject of diagnosis, which is the origin and reason of our paper, may prove of the greater weight and authority. That we confounded two very different diseases, and mistook simple intoxication for delirium tremens, in the few cases we are about to relate, and in them only, we are entirely satisfied, since, with the exception of these few, and the above-mentioned three that proved fatal, one method of treatment has proved successful in all the rest, and was that which has been approved by the best authorities. Nor are we ashamed thus to acknowledge, that after eighteen years practice, the *juvantia et lædētia* are often a necessary part of our diagnostic apparatus, and highly useful in determining our course in the treatment of many diseases.

In the history of the following cases their general aspect must be taken, and their general course of treatment, all minute points must be omitted, as we took no written memoranda; the reader may, however, rely on what we shall venture to relate, as it was all most carefully stored in the memory, and revived by frequent reflection and conversation. In fact, the cases, *so far as they relate to our present purpose*, are as fresh in the mind as if they had passed but yesterday.

CASE I.—A man, twenty-four years old, of the sanguine temperament, who had been long in the practice of taking strong drink to excess, but seldom to the point of complete ebriety, suffered some debilitation from cholera morbus, and from a consequent temporary omission of his favourite beverage. At the same time also the prickly heat struck in, from which he suffered some irritative fever; he became delirious, and in this state of his disease I was called to

him for the first time. His family had been giving him spirits, in order to support his strength, and under the opinion that a sudden change to sobriety might prostrate him below the point of reaction.

He now exhibited all the characteristic symptoms of delirium tremens, and knowing as we did the tenor of his life, and his recent abstinence, there appeared no necessity for any further inquiry. He was in the greatest alarm lest the imaginary negroes, whom he saw in every part of the house to which he ran for protection, should instantly destroy him; his eyes were wild and prominent; his motions the quickest imaginable; he had no fear of the real persons around him; his pulse was full, frequent, and imparted a sensation of tension, *as it very often does in this disease*; he trembled in all his limbs, but whether it was from fear or disease is not certain; he was slightly feverish, but in a constant perspiration, probably from fear, or from his violent exertions; he had also some little tonsillitis.

This patient was treated with large doses of laudanum, and was allowed wine with nourishing diet; but he became still further delirious, and after passing three times twenty-four hours without sleep, we determined to try the method of treatment first recommended by Dr. Klapp. Tartar emetic was therefore given him in frequent doses till it nauseated and purged him freely; all stimulus was abstracted; no more laudanum was given; the patient very quickly became quieter, and gradually, but steadily, recovered without any soporific.

That this was not a case of delirium tremens we have lately inferred—partly from the history of the case, and partly from the method of cure. In the first place, he did not become delirious till, in his state of *direct* debility, they had given him ardent spirits, of which a very small portion, in this very highly excitable state, was sufficient to create a certain abnormal exaltation in the brain, and this was but too carefully sustained by the continual administration of laudanum and spirits. The repulsion of the prickly heat might also have had some agency in determining the character of the disease. Had this man been about to fall into delirium tremens, the spirits they gave him ought to have prevented this evil, and that he took a sufficiency for this purpose there can be no question. This man has been an habitual drunkard ever since, now more than seven years, and though he has sometimes abandoned his spirits for a few days, he has never since been affected with delirium tremens; and certain it is that he never had been before. True, his delirium had apparently all the characteristics of the species *tremens*, and such we considered it after the cure was effected; but further experience has since convinced us of error, as will be more clearly shown in succeeding cases.

CASE II.—A man, of the lymphatic temperament, thirty years old, whom we had often successfully treated for this disease with opium and its various coadjuvants, came to my door in great agitation; his countenance wild; his whole body in a tremor; his pulse hurried and full; no evident fever. I thought of no other disease than that of which I had often cured him, and therefore determined to try the method which I had recently used with such marked success in the above case. We gave him six grains of tartar emetic at one draught, and promised to call upon him in about an hour. Upon arriving at his house we found that he had not returned, nor did we see him again till the next day,

when he met me in the street with a smiling countenance, being highly pleased with the success of the remedy. After having taken the tartar emetic he had gone to the river bank, where he was soon overtaken with an artificial cholera morbus that continued the greater part of the night, and the morning found him, "*mens sana in corpore sano*," a sound and rational man. He was very thankful for the prescription, which had, as he well knew, cut short his debauch, and, as I now understand it, saved him a fit of delirium tremens in the end.

In this case I was most clearly deceived in my hasty diagnosis, for, upon inquiry, I found that his spirituous draughts had not been diminished; and an almost total intermission had always been, as it always is, a necessary preliminary to his accustomed delirium tremens. In this case the maniacal hallucination was apparently that of the real disease with which he had so often been afflicted, though it is possible that a more deliberate examination might have unveiled the mystery. And here we are not unwilling to insinuate that others, who, in the hurry of business, have treated the disease successfully with depletion, and particularly with emetics, may have been equally deceived. Let them receive this in the spirit with which it is written—surely no human being is willing to be considered infallible.

CASE III.—A young man of the sanguineous temperament, was supposed to be affected with delirium tremens, under the care of Dr. Price of Sunbury, and I was called in consultation after the first day. This patient was continually harassed by some imaginary armed ruffians, who he feared were seeking his life; his bodily activity was surprising, and his mind was not quiet for one moment, day or night; he was tremulous without the least interruption of his agility; of his pulse I have no recollection. He insisted upon having spirits, or rather he would take nothing which did not contain them; and as it was supposed, according to vulgar prejudice, not safe to relinquish this draft at once, his family continued to gratify him, notwithstanding our repeated remonstrance. Laudanum in the accustomed dose, which with us had been from one drachm to four, appeared to render him worse, and Dr. Price told me that he had given him forty grains of dried opium, within the space of a few hours, without the least soporific effect. The doctor then recollected that on a previous and similar occasion, he had cured him by a large dose of calomel and jalap; hence it was determined to restrain him more carefully from all kinds of stimuli, and purge him freely. This was done with immediate advantage, and the same prescription being continued, he perfectly recovered in a few days, without the use of any soporific or stimulus. The real nature of this case will appear more clearly in the following.

CASE IV.—The above patient suffered the same disease after a few months, and this time he fell under my exclusive care from the first. With respect to delirium, he was affected precisely as before; but inasmuch as he had not abandoned his spirituous drinks entirely, as his pulse was full and strong, his face flushed, and his eyes rather heavy than wild, I suspected a deviation from the ordinary disease. Laudanum, however, was tried in large doses, but without any soporific effect—on the contrary, there was every reason to believe that it aggravated the disease. I now succeeded in confining him to a dark room,

made at last a successful effort in debarring him from spirits, and as I became suspicious at last that instead of delirium tremens, it was a real case of continual intoxication, I took ten ounces of blood from his arm, ordered buckets of cold water to be poured on his head, abandoned the opium, gave grain doses of tartar emetic till puking and purging supervened. In twice twenty-four hours he was by this means perfectly restored in every apparent respect. So far this was plainly a case of real intoxication.

Had I now been prudent enough to put him under the influence of moderate doses of opium, I should have saved myself no little trouble, for no sooner was he fairly rid of his temulence, and as I thought perfectly restored, than a real delirium tremens supervened. I was called in the morning and told that my patient had spent the greater part of the night in running over the roof of the house, in order to avoid the sprites that continually haunted him. He had not taken one drop of spirits, and yet to all human eyes *the mere delirium was the same as before*. He now took laudanum in doses of one, two, and sometimes three drachms, with an abundance of lupuline, and nourishing diet without either spirituous or fermented liquors. Under this treatment he became quieter and obtained short, unrefreshing slumbers, but it was not until he had taken laudanum to a very alarming amount that he obtained a salutary sleep. It required eight days to perfect the cure, but though slow, it was happily accomplished, as he has scarcely tasted ardent spirits since that time, now more than three years.

All these cases then, except the sequel of the last, were cured by the very means of curing intoxication; they were all rendered worse by the only laudable means of treating delirium tremens; therefore, since they must pertain to either one or the other of these diseases, it may fairly be considered, without further evidence, that our first diagnosis was utterly erroneous. Whether this unusual similitude of the symptoms to those of delirium tremens, was owing to some constitutional peculiarity, or to some accidental and uncommon association in the diseased economy, cannot of course be ascertained. It is possible that some more penetrating genius might have learned from the symptoms the true states of the system, without resorting to the *juvantia et lædentia*, and particularly in the fourth case, in which I have said the pulse was full and strong, the face flushed, the eyes rather heavy than wild; but in all the others we saw nothing which could have persuaded us that they laboured under intoxication.

Let not the reader, however, suppose that we consider the *juvantia et lædentia* as an infallible criterion of the character of all diseases, since many have been cured by contrary remedies; but on the present occasion it may be safely inferred, that a state of the system which is almost infallibly remedied by very large and almost frightful doses of laudanum, from one drachm to five times this quantity every six hours, is very unlikely to receive equal benefit from full and repeated doses of tartar emetic.

It is of immense importance to the credit of medicine, as well as to the safety of patients, that all contradictory therapeutics should be philosophically reconciled. If we can show the way of doing this with respect to delirium tremens, it is enough; let others pursue it who have more leisure, greater abilities, and more liberal opportunities of consulting books, than falls to our unhappy lot, in this ultimate of medical literature. For in us it would be considered as extremely audacious, to suppose for one moment that some distinguished physicians could have been mistaken in the disease on which they have written as delirium tremens, and yet there is no other means of reconciling their accounts with truth and nature. If the disease is to be cured by tremendous, and what *a priori* would be considered as murderous doses of opium—if it can be cured as it often has been by brandy alone—if it is almost certainly fatal in most cases without this stimulation—surely that is not the same disease which some have cured by large bleedings and other evacuations, by an artificial cholera morbus, or by shutting up the patient in the dark without either food or medicine.

Violent diseases are not cured with equal success, if they are cured at all, by contrary and violent methods; as soon would I believe that fire could be extinguished as certainly by gunpowder as by water. True, many diseases are cured by contrary practice, but not, as I have already said, with *equal success*, not *κατὰ φύσιν* as Hippocrates says, or according to the nature of the disease, and the facilities afforded by the state of the system, not *physiologically*, as our most eminent men are wont to express it. But even in mild cases, a natural method is best; for though an incipient pleurisy may be cured by a puke, a gentle case of dysentery by half a dozen outrageous cathartics, a slight fever by a severe flagellation, and a gentle case of delirium tremens by a puke, a purge, or a flaggon of brandy, yet these are not the methods which suffering nature requires, nor are they confirmed by laudable experience. Thus it is, there are numerous ways of curing nearly all curable diseases; if it were not so ordered, it is a fact, that many physicians would strew the earth with their dead; but the question is not merely to remove a disease, but to do it as CELSUS says, *tuto, celeriter, et jucunde*, according to some natural method which shall prove applicable to all its grades, and which may restore the patient by the quickest, safest, and pleasantest way. If then a method can be produced which holds good through the whole disease, in all its degrees of comparative mildness and severity—this surely is physiological, and calculated to ascertain its intrinsic nature.

Now it appears to us that nothing can be more congenial to the disordered state of the system in this disease than opium. Let us take a mild case, now clearly within our recollection, and consider it well. A man who had long been too free with his bottle, and afterwards furnished the above mentioned case of ramollissement of the stomach, quit his beverage for a few days, in consequence of a fever, but no sooner was he relieved of this than he fell into delirium tremens. It proved to be a mild case, and the patient was quite sensible of his situation, as he had often had the disease before, and had seen it in others; therefore he took opium, wine, bark, and porter, with such effect that he was soon restored. On quitting his opium too soon, he relapsed, upon which he was desired to take small doses, with an abundance of lupuline. This having no effect, he passed the night without a moment's sleep, but so sensible of his situation that he spent the time in laughing at his own ridiculous imaginations, and in cursing the inefficiency of the lupuline, which I had promised should supply the place of opium. The next morning the sovereign specific was given more freely, the spectres vanished, and salutary sleep supervened the following night.

Now, if in mild cases this remedy is found to be so very salutary, and so perfectly specific, if in severe cases it is only necessary to increase the dose, and if in the worst we can give four ounces of laudanum in twenty-four hours with safety, and astonishing success; surely this, or something of similar operation is nature's remedy, and the providential medicine in this wayward disease. All this is so clearly set forth, so soundly argued, so inductively established by Dr. COATES in his elaborate essay, in the N. A. Med. and Surg. Journ. Vol. IV. that on this point we have only to refer to his superior authority.

We have candidly acknowledged in the above pages that in four cases we made an erroneous diagnosis; we shall now endeavour, in order to make our paper the more useful, to show that others have probably fallen into the same deception. Dr. POTTER, in his notes to ARMSTRONG on the Brain Fever of Drunkenness, says that he has bled in delirium tremens to the amount of seventy, eighty, and several times to one hundred ounces in three or four days; he even speaks of drawing forty ounces at a single bleeding, without having ever had occasion "to regret this sanguinary measure." Now let us inquire what is there in this disease that can justify such liberal effusions of blood and strength. It generally occurs in those who have been, at least in some degree, broken down by intemperance, and that too after they have lived some days on stimulants rather than nutriment; even

their stimuli are at last abandoned, and the coming delirium is generally preceded by long-continued vomiting. Whence then the necessity, and whence even the capability of tolerating such liberal profusions of blood? As to necessity, there can be none, for every one must have observed that the delirium appears to arrest the progress of any other disease; we have seen it cut short a pleurisy more quickly than the lancet and blister. Perhaps it may not appear too ontological to maintain that the disease is totally distinct from inflammation, and that the lancet can have no controul over it whatever. But independent of all argument, general experience has proven that such treatment is destruction to the *deliri trementes*, and hence the doctor's fortunate juvenia clearly show that it was not the disease he presumed it to be, and thus he proved himself a worthy disciple of his illustrious master, Dr. Rush, despising names, but carefully regarding the real state of the system.

But it will be inquired—do we believe that all those cases which have been successfully treated by emetics as delirium tremens, were cases of pure drunken excitement? Certainly not—far be it from us to aver that the disease may not be cured by emetics, purges, or even by the unassisted operations of nature; but such as are thus cured, are in general mild cases, the morbid associations of which the concussion of an emetic or purge may easily break up, as a fright has been known to cure the gout, and a fit of laughter an ungovernable priapism. All we contend for is this—that they will not cure the severest cases, and particularly in broken constitutions, whether from chronic intemperance or recent and co-existing disease; but on the contrary, that all severe cases which are thus cured, are really nothing but gastric irritation, radiated to the brain, or more generally, plain intoxication itself. All those cases which Dr. KLAPP has related in the *Medical Recorder*, Vol. I. may be thus satisfactorily construed.

When the doctor wrote on this disease, it was but little known, and moreover the radiation of phlogosis from the stomach to the brain was not ascertained as it is at present; hence we may conclude, without the least arrogance, and without at all impugning the skill of that able practitioner, that some of his cases were not delirium tremens. In almost every instance related by him in the *Medical Recorder*, Vol. I. some gastric irritation is shown to have existed, and that when this was removed, the disease of the brain ceased.

As to those cases related in the *Eclectic Repertory*, Vol. VII. it is most probable that they were all delirium tremens, but their ready cure can be accounted for on the principles above stated; they were probably all most fortunately adapted to the salutary operation of eme-



tics, and such another rapid succession of emetico-curables might not soon recur. It certainly has not occurred in the practice of others, though an occasional patient has been restored by this method. Even the doctor himself has to acknowledge, that in one case wherein the patient was broken down with dysentery, the emetic was not salutary; ought we not then to infer that he perished, unless cured by the sovereign specific.

Dr. Klapp's reasons for trying emetics in the first place, it is feared is not correct or tenable.

"Having many times remarked that the subjects of mania, in consequence of strong drink, are very apt to labour under vomiting for several days before they become deranged, and that when the mental disease begins, the vomiting ceases; and having also observed, if puking spontaneously or accidentally occurs, while a person is affected with this species of insanity, a period is shortly put to the disease, &c. By these observations I was very readily led into the following reasoning. If spontaneous puking will prevent for several days, and is even able to cure mania of this kind, why would not the administration of suitable emetics produce similar good effects?"—*Ecl. Rep. Vol. VII. p. 252.*

Now to infer that because the disease was ushered in with a vomiting, that ceased as soon as the delirium commenced, we should therefore reproduce this vomiting, is not medical logic; as well might it be inferred, that because the cold stage of an intermittent ceases when the hot begins, we should therefore reproduce the cold to cure the hot; and in mild variola, because the fever ceases with the eruption, we ought of course to re-excite the fever to drive away its consequences on the skin.

But again—he concludes his premises with a fact which we presume is not general, and for our own part we have never observed it in a single instance—"that if puking spontaneously occur while a person is affected with this species of insanity, a period is shortly put to the disease." This spontaneous vomiting would no doubt prove effectual in mere intoxication, but so far from postponing the delirium in question, it may fairly be considered as one of its exciting causes, as every thing must be which debilitates; and so far from suspending or curing it, we have uniformly found it a troublesome and pernicious symptom. See Dr. WRIGHT, p. 18 of Vol. VI. for the same opinion.

We may infer also that authors have not always discerned this disease correctly; because in their histories of it, their symptomatology is not always correct. "The eyes are red and furious—the patient complains of violent pains in the head."—SNOWDEN, *Eclectic Rep. Vol. V.* and his reviewer, *Philadelphia Journ. Vol. I.* says that "the

eyes are red and have a very furious expression, the face is tumid and suffused." The truth is, that the eyes are very seldom red, though the patient loses days and nights of sleep, and furious they never are; but as to pain in the head, we have never known it in a single case. All the above-mentioned symptoms pertain to real intoxication, but are never found in pure delirium tremens. Why should the eyes be furious where the patient is in the greatest fear and the most abject humility? The eyes are wild, but not furious, and as to pain in the head, why should a disease produce this when it suspends pain in every other part of the body?

And again—Dr. BARKHAUSEN, see *N. A. Med. and Surg. Journ. Vol. VII.* "knows of no more adequate comparison of the disease, than with a fit of intoxication, both having great analogy with each other, as well in their cause as in their symptoms." Now we cannot conceive that there is the least analogy in either the remote, predisposing, exciting, or proximate causes, and as to the symptoms, we have never seen them similar, except in the four cases above acknowledged. Intoxication is the direct consequence of stimulus, producing *indirect* debility, but delirium tremens is produced by the abstraction of stimulus, and a consequent *direct* debility, producing a morbid increase of excitability. The presence of the liquid poison in the stomach and brain, is the cause and the only cause of the first, but the absolute want of it is the solitary cause of the second. If the doctor did really mistake intoxication for delirium tremens, no wonder that he found so much advantage in nauseating medicines, and particularly in tartar emetic; and that he did make this mistake may be fairly inferred from the smallness of his doses. He found five grains of tartar emetic in twenty-four hours quite sufficient, and he even forbids more than twelve grains in that period, lest a gastritis be thereby induced. He finds also half-grain doses of opium every two hours sufficient to calm the wild brain of the deliri tremens, and soon to procure a "critical sleep." Surely if this were a fact, our common doses of opium in this disease would soon put the patient into a critical sleep to awake no more.

But the truth is, that such doses, whether of opium or of tartar emetic, would, in the real disease, prove utterly insignificant, and the patient would be lost through the want of medicine. They would prove like the old dose of three drops of wine in a fever. But after a drunken fit is partly removed by nauseating doses of tartar emetic, we can readily conceive that half-grain doses of opium every two hours would prove very effectual in preventing delirium tremens, and would soon restore the patient. Thus, from the success of the doctor's prac-

tice, it may be fairly inferred that he is not well acquainted with the disease in question. But in p. 24, of Vol. VI. of this Journal, Dr. Wright appears to slide insensibly into the same erroneous diagnosis. He says—

“The general phenomena of poisoning by opium and some other narcotics, are often very analogous to the symptoms of per-acute delirium tremens from drink; and it has been long matter of apprehension with me, that our plan of treating high *temulence*, (drunkenness,) was liable to the serious risk of supplying the morbid actions with an impulse fitted to carry them on to direct augmentation. In one of the cases reported above, where eighteen grains of opium, two grains in the hour, had been taken, after suspension of the opiate three hours, without the least apparent controul of the symptoms, between four and five grains were given at one dose. The delirium increased, convulsions ensued, and continued until death.”

Now surely it is impossible to maintain this opinion—there is no similarity between the symptoms of poisoning by opium and those of delirium tremens. Dr. WRIGHT seems to acknowledge that the patient died of opium; if it was a case of “high temulence,” the opium was no doubt an improper medicine, but if it was delirium tremens, he certainly died for want of that remedy. We are not reflecting on the skill of Dr. W., his established reputation emboldens us to point out wherein, at least in our opinion, he has sometimes failed; even HOMER occasionally sleeps, *aliquando bonus dormitat Homerus*.

But again—we should infer that authors have sometimes mistaken intoxication for delirium tremens, from considering the confusion of language which they use in treating the subject. The excellent author of the paper which heads Volume VI. will pardon me if I refer some of his numerous readers to a few passages in his paper in which he does not appear to discern with his accustomed accuracy, between the language of drunken excitation on the one hand, and delirium tremens on the other. In page 19, he speaks of suddenly suspending “*temulent irritation*” by opium and camphor, and he says, “*we have tried various modes of exhibiting the opiate in temulence*,” and “*the form of opiate employed in temulence seems*,” &c. He speaks of pul. doveri answering well in “habits giving an inflammatory character to the grade of excitement associated with *temulence*.” In treating of the efficacy of the *araneum*, he says that a man “after consuming, by his own report, three quarts of brandy in thirty-six hours, fell into a state of *temulent excitement*,” &c. see p. 20. And in a case which was unquestionably delirium tremens *in the end*, see p. 22, line 3, “he became so agitated, *temulent*, that it was neces-

cessary," &c. In page 32 he discusses the question whether it is safe to withhold ardent spirits in *temulence*.

In all the above quotations the reader may observe that the author uses language which can be appropriated only to intoxication, and to its protracted irregular excitement, a state of the brain, perhaps sometimes approaching phrenitis, and often continuing for several days after the patient has quit his spirits. Such also is the uniform language of the whole essay. But the author's successful treatment with very small doses of opium, half a grain every half hour, gives us the most satisfactory proof that the disease was not delirium tremens, and that although he mistook the name, he made no dangerous error in the treatment. Such small doses of opium, with the abstraction of ardent spirits, would permit an intoxicated brain to subside into regular action, when by giving larger doses the abnormal excitement would be protracted, and probably end in "convulsions and death." In this way we shall venture to explain, at least for our own private instruction, the happy event of the case in page 20, where the author substituted the *araneum* for opium, as this we presume was a plain abstraction of all stimuli at once.

But at last the author's faith in these small doses of opium was completely shaken, for he says, "in June 1829, we had three cases of delirium tremens, in which the power of sedatives and opiates combined with our best judgment, and administered with all our skill, was unequal to cope with the disease, and we incurred defeats the more unpleasant because novel and unexpected." Now, why these defeats? Most unquestionably in the two first, through the fear of opium. This is as certain as that two patients would die of enteritis, who should lose blood only by a leech; or that wine in the old dose of three drops would not raise a patient in the typhus fever. The third case is not given in such detail as to enable us to form any opinion.

Now what we contend for is, that if we cannot cure this disease in its worst forms without giving from ten to fifteen grains of opium every two hours, till long-continued sleep be induced, if we sometimes go as high as twenty grains at a dose with complete success, surely the half-grain doses are not appropriate or sufficient; and that the disease which is so readily cured by these small doses is not the same that is cured with equal success by doses twenty times greater. Sometimes when we fancied that apparently mild cases might be cured by two-grain doses every hour, we have been disappointed at every visit to find the patient awake, and thus it has continued till we have gradually raised the dose to twenty grains.

Nor have we used these doses unassisted by other soporifics, but have tried assafoetida, camphor, infusion of hops, porter, lupuline, a tea-cupful in a night, the pediluvium long continued with the patient in a sleeping posture, but nothing appeared to assist the opium very sensibly, nothing but this divine narcotic appeared to be worth the trouble of using it in the worst cases. What the disease consists in is not known, authors may talk about the abstraction of stimuli, and the consequent morbid excitability—this may be true, or it may not, it may be the whole cause, or only a part of it, but that Providence has provided a remedy of specific power cannot be doubted. In one instance the operation of this was so salutary and striking, that we cannot refrain from relating the case, and then let it be inquired, whether it is the same disease that is cured by half-grain doses of opium.

The poor man who was the subject of our second case, was treated by emetics without effect; tartar emetic, and ipecacuanha we tried in very large doses, but the stomach appeared to be wholly insensible to their operation. We then gave eighteen grains of opium at one dose, and with our own hand. Four hours afterwards we found him surrounded by his neighbours, who had collected to secure him with ropes, himself was posted in a corner of the room, with a huge billet of wood raised over his shoulder, thus prepared to strike any one that should approach him. I desired the people to come away, and I would prevail upon him to be quiet, but he forbade my going near him, and seemed resolutely bent on self-defence. This was the only case of angry delirium tremens that I had ever seen, and therefore I hesitated for a few minutes to consider what was next to be done. In the mean time, however, he suddenly laid down his club, and said—"now, mother, I'll go to bed." He did so, spoke to me as rationally as he had even done, took a bowl of soup, dropped asleep in ten minutes from the time he laid down his billet of wood, and twenty hours nearly uninterrupted sleep left him perfectly well, both in body and mind.

Who does not see in this case the decided effect of a large dose? No sooner had it time to dissolve and take effect, than it suddenly brought back the wandering intellect, calmed the fluctuating brain, restored the husband and father to his wife and children, and the affectionate son to his mother; and yet—O *remedium divinum*—such an instance is only one among thousands that might occur every day, through the just administration of this single medicine.

As to any other narcotic remedy, we know of nothing that is entitled to much respect. At one time we thought the hop infusion and lupuline of some advantage, but further experience has diminished our faith. We have given a tea-cupful of lupuline in twelve hours with porter, but observed no sensible effect. In fact, it is a feeble hypnotic, and generally loses its influence in common diseases after the

third or fourth dose. There was a time when we thought the acetic preparations of opium particularly adapted to this excitable disease, and we mentioned this many years ago in a letter to Dr. Coates; but after further experience we are not certain that they have any decided advantages over common laudanum, only in so far as they are not so apt to produce costiveness. An acetic tincture, recommended by Dr. JOSEPH HARTSHORNE, we have used for several years more generally than common laudanum, the recipe for which may be found in the Philadelphia Journal, Vol. XIV. p. 246.—Turkey opium,  $\mathfrak{z}\text{i}$ .; strong vinegar,  $\mathfrak{z}\text{vi}$ .; alcohol,  $\mathfrak{z}\text{iv}$ . Triturate the opium with the vinegar, add the alcohol, and digest for ten days, or longer. It must be observed, that this is about the strength of common laudanum, and therefore one may be confidently prescribed for the other. Whether this acetic preparation contains all the narcotine, is probably not yet determined.

Whatever preparation of opium is used, it ought to be in tincture or fine powder, and it will often be necessary to deceive the patient's friends as to the quantity, or they will not give the prescribed doses.

That malt liquors, wine, ardent spirits, are sometimes necessary, we are sorry that any one should deny. These, like opium, are specific in this disease independent of the permanent strength which some of them impart. In some cases, indeed, we have seen brandy prove like oil to the dying lamp, and rekindle the expiring flame of life. There are many tonics that are highly useful coadjuvants, among which ginger, quinine, capsicum, cloves, garlic, lupuline, may be considered as the best.

But however salutary and delightful the effect of opium in this disease, it must be confessed by all that this soporific practice is far from comfortable to the attending physician. It too often happens that the administration of opium in diseases called nervous is purely tentative, and the physician is too often obliged to waste his most precious hours in waiting the effects of many insignificant doses, when one of sufficient power might have saved his patient the severest tortures. True, he may be suddenly restored by very large doses, but these may approach the confines of perpetual sleep, and therefore it requires no small share of experience and mental vigour to determine what quantity of the medicine may be insufficient, and therefore deadly on the one hand, and what may be absolutely poisonous on the other. Thus it is in all the walks of life—the liveliest pleasures are beset with the most insidious dangers. A young physician once came to me in the greatest alarm lest he had destroyed his patient by my advice.

Upon arriving at the bed-side of the latter, we found him in a profound sleep, from which he could not be roused, and to add to the alarm, he had taken four ounces of good laudanum, part of it by the nurse's mistake, in about twelve hours. His pulse was good, his skin moist, his breathing not bad, his colour healthy, his features at their ease, and I ventured to assure my friend, not however without some uneasiness, that his patient was safe. He slept twenty-four hours, and awoke nearly well. But this was an extreme case, and not to be imitated, unless when the patient has been in the habitual use of the poison.

Dr. Coates says he has never heard of a case in which opium was known to do harm in this disease;\* but this is no proof that patients may not hereafter be brought into danger by this perilous practice; and for our own part, we never do prescribe large doses in delirium tremens without passing the time somewhat anxiously till the cure is effected. In one case, after passing an almost sleepless night, in consequence of having prescribed larger doses than ordinary, all which I knew would be faithfully administered, I was called at the dawn of day to visit my patient; I proceeded to the house with PRYSE's stomach tube uppermost in mind, but to my great surprise the patient had not closed his eyes during the whole night. Timidity on the one hand, and rashness on the other, are equally to be avoided; in this case the dose was increased to twenty-four grains, and a healthy refreshing sleep was thereby attained.

In the midst then of such continual discomforts attending the opiate practice, the inquiring physician would gladly learn whether there are not some means that can be brought in aid of the grand specific, or some physiological method of changing the state of the system, and preparing it for the operation of opium, so that smaller and more comfortable doses may answer the just indication. To this it might possibly be answered, that sleep is sleep, and that since it is the only remedy, it imports not, provided it be healthy and refreshing, whether it be attained by five grains or by five times this quantity. In the treatment of the spotted fever, the eastern physicians did not consider the quantity of stimulus given, but the effect produced, and by this heroic practice they saved the lives of thousands that in timid hands would have certainly perished. In the treatment of such diseases, one drachm of laudanum, or one gill of brandy deficient, and the patient may be lost, notwithstanding the alarming doses that have already been given; here it is that the phy-

\* Dr. C. does not, however, deny that it can never do harm.—Ed.

sician of heroic courage will always succeed the best, as LUCAN says of JULIUS CÆSAR—

*Nil reputans actum si quid superesset agendum.*

Still we fondly hope that the present unprecedented spirit of improvement will not leave us much longer in the continual disquietudes attending the opiate practice in its fullest extent. Cold water poured on the head, cups and blisters to the head and back of the neck, have all been tried with some little show of advantage; but there are states of both body and mind, sometimes of each singly, and often of both conjoined, which must necessarily forbid these remedies, or rather coadjuvants. Moreover, they are troublesome, and but too well calculated to prevent sleep.

It has been supposed that emetics render the stomach more sensible to the operation of opium. This is no doubt true—it was a favourite position with Dr. Rush in all diseases wherein he used them, and he was accustomed to relate the case of a child that perished by a very small dose of laudanum given after the operation of a puke. He accounted for this by supposing that the excitability of the stomach was increased by the emetic, whereas Dr. Coates presumes that this organ being cleared of its various contents, the opium therefore acts more powerfully upon it. The fact has been observed to be true, let the cause be what it may, but we strongly doubt whether much is to be gained by this method of preparation in delirium tremens. That it has sometimes been useful in preparing the system for the operation of opium, and that it has even cured the disease, cannot be denied; but there are so many strong objections to its general use, so much uncertainty as to the cases to which it may perchance be adapted, so much delay occasioned thereby, so much doubt as to the strength of the patient and his ability to bear it, that we are ready to presume it can never be brought into general use.

There is moreover no just theory for the operation of emetics as yet invented. Dr. STAUGHTON, one of their principal advocates, contends that the whole disease consists in an inflammation of the stomach, and that dissection proves the fact; but gastritis was never to be cured by emetics in any system of medicine, and thus his pathology condemns his practice.

The warm bath has lately been used with surprising success as a means of calming the tumultuous brain as well as of preparing the system for the operation of opium; nor can any one read Dr. Wright's paper, which heads Vol. VI. *see p. 25*, without yielding a most willing assent to the wonderful efficacy, as well as to the mere priori



plausibility of the remedy. Almost every one, whether medical or not, knows the composing influence of the pediluvium, and with this in view we have often used it in delirium tremens. Our method was to put the patient in bed in a supine position, and to place his feet in a tub of warm water, by drawing his legs to an angle with his thighs. In this position we are accustomed to bathe our patients from one hour to three or more in various diseases; but we are not certain of having ever derived much advantage from it in delirium tremens.

The general bath, however, is a far different thing, and from the mere recommendation of Dr. W. it is hoped that no man will treat a single case of the disease without giving it a fair trial. True, it is a most inconvenient remedy in private practice, but the advantage to be gained, or even the consciousness of doing our duty, will amply repay the trouble. The principal apprehension we have for the success of the remedy is that the very small doses of laudanum which Dr. Wright found sufficient after using the bath, give occasion for some sceptical fear lest errors might have attended his experiments; and yet the cases were so numerous, and were so conscientiously attended by this able practitioner, that to express any doubt requires a degree of hardihood we do not wish to impute to ourselves. Time will decide, and whoever shall have fairly tried the new remedy in a sufficient number of cases, ought forthwith to make known his success.

Dr. Wright acknowledges that his reading on the subject of delirium tremens has been but limited, and hence he is not informed whether the warm bath be a new remedy in this disease; he will therefore be glad to learn that his practice will derive no little support from the experience of Dr. Armstrong. This highly gifted physician has used affusions of warm salt water with the happy effect of rendering the system so alive to the operation of opium, that forty to fifty drops of laudanum given after the affusion, and repeated at the end of two hours, has often allayed the whole disease. Generally, however, it has proved a mere alleviation, and therefore, under his favourite notion, that calomel equalizes the circulation, and removes congestions, he gives two or three grains, with a grain and a half of opium, every six hours; even this small dose of opium is to be reduced one-half after the first day's administration, and this practice, aided by frequent affusions, has rarely been known to fail.

Having never felt the necessity of calomel in this disease, we have not even thought on the subject; and not having had any confidence in such small doses of opium, we have entirely neglected the whole of Dr. Armstrong's practice. For this we take no little blame to ourselves, for the most unreasonable opinions, when sanctioned by such

a name, ought to insure the most respectful consideration. It must be acknowledged, however, that Dr. Wright's method appears more plausible in theory, since it must have a more composing effect from the long-continued and steady impression on the system; but since the two modes reciprocally recommend each other, they ought to have a comparative and impartial trial. The virtues of calomel are manifold and unexpected in many diseases, and surely any medicine is safe under the recommendation of Dr. Armstrong. But if any cases occur in which the physician is satisfied that the rapid action of the calomel is necessary, it might be proper to use the cold affusion, as afterwards practised by Dr. Armstrong on the recommendation of Dr. RAMSAY, and, as it appears, with success equal to that of the warm.

We have already acknowledged our fault in not having tried this method, which has been so long before the public. True, there are many cases in which the patients are too much broken down for either the warm or the cold affusion, but in the greater number these remedies may, and ought to be tried. The time is now arrived in which the physiological physician will not consider it consistent with his lofty title and pretensions to stimulate an inflamed stomach in order to quell a disease of the brain; something must now be effected through that most important organ, the skin, and through the avenues which it affords to the brain, and that this can be done, the whole system of modern medicine affords the greatest encouragement to hope.

As to venesection, we have never seen a drop of blood spilled in this disease except in two cases; these were not our patients, nor had we anything to do with recommending this measure. If in this world there is any certainty out of the intuitive sciences, it appears to us certain, that not one drop of blood should ever be taken from the general circulation; and we may lay it down as a maxim, that when pleuritis, enteritis, gastritis, are to be cured by brandy and opium, then will delirium tremens be cured by bleeding and an artificial cholera morbus. If there be any disease to which we would venture to compare delirium tremens, it is the typhus under certain forms, and in fact we have sometimes been extremely embarrassed in our discrimination, particularly in the typhus pneumonoides. In the last stage of this disease we have many times seen such an exact semblance of delirium tremens, that there was not one diagnostic symptom left. The patient sits up in bed in a good-humoured delirium, sees imaginary beings in every part of the room, picks at flocculi, desires to leave the house and go home, his tongue is moist and nearly natural,

the figure and contour of his face but little altered, his hands tremble, his pulse sinks, his tendons jump, he sleeps none till he sleeps in death, no quantity of stimulus affects him, in his last hours he will sometimes run about the room till he falls exhausted, or even dead at your feet.

This is the termination of typhus pneumonoides as it occurs after the loss of too much blood. Whether it is that some undiscovered lesions, or some unknown entity that is common to both, can establish this community of symptoms, has not been yet ascertained. The typhus pneumonoides has not appeared in our neighbourhood for the last ten years, or we should probably ere this have tried in its delirious stage what the largest possible doses of opium would effect. Nor should we consider this an unpromising experiment, since in this stage there is no inflammation in progress, as the delirious affection will generally suspend what the lancet has left. The disease is almost certainly allied to the spotted fever of New England, in which large doses of laudanum were found of primary efficacy.

But even to the common typhus, or slow nervous fever, there is a strong alliance pointed out by the symptoms of this in its stage of delirium; and let it be observed, that this stage of delirium, in every form of typhus fever, is hurried on by bleeding too freely, precisely as the loss of blood will sometimes usher in a delirium tremens. Whatever debilitates the drunken or the typhus patient too suddenly, is certain to bring on what might fairly be called a delirium tremens in either. We are here aware of being in controversy with the higher authority of Dr. Coates, and we are not unwilling to suspect our own judgment wherever it differs from his; but his testimony is merely negative; he states what he has not seen, we believe we are stating what we have actually seen and known.\* In all cases then, wherein, by necessarily bleeding, and abstracting the patient's favourite beverage, the disease is to be apprehended, more or less opium is to be given as a preventive; and that it will obviate the coming evil, and that it may be given with safety in the necessary doses, even in the inflammatory complaints of such patients, there can be no question.

But from the medical journals we learn that FRANK, SPERANZA,

\* Dr. Coates may have been led into this error, if in reality it be an error, by the fact, that many drunkards fall into delirium tremens with extreme difficulty. Some of these miserable wretches we have known to pass through many years of alternate drunkenness and sobriety until their constitutions were destroyed, without ever knowing this disease, whilst others were continually falling into it from the most trifling and apparently inadequate causes.

and others, call the disease an encephalitis, and bleed as we do in America, for a phrenitis, e. g. from external violence. This is another clear proof of our first position, that the disease is often suspected where it does not exist. Nor is this at all surprising, since even the learned Dr. GOON, in his 2d edit. describes it under the ridiculous name of hypochondriasis autalgica, and most clearly proves that he had never seen, or correctly distinguished it from some other, we know not what, delirious affection; and Dr. GREGORY, who would fain give a summary of the present state of medicine, jumbles it even in his third edition, between phrenitis and hydrocephalus, and even supposes that it is sometimes produced by the poison of lead, and by mental emotion. Not so with Dr. ARMSTRONG, of the same city, and sphere of observation—he describes it so correctly, that his knowledge is altogether unquestionable, and notwithstanding his general delight in the shedding of blood, he is for himself surprisingly cautious in this disease. This is a stubborn fact, and shows the man of talents for correct observation, and the surmounting of theoretical prejudices.

But even suppose that inflammation exist in the stomach, according to some, or in the brain according to others, or even in both, as it no doubt often does, is it not the merest madness to contend, in the present age of medicine, that the body thus diseased cannot be carried safely through without venesection? In typhus fever, and particularly in that form of it so well known in New England under the name of spotted fever, there is infinitely more inflammation than ever was discovered in delirium tremens, and yet the most urgent stimuli were the only remedy.

The pathologist must not always be governed in his practice by the frightful lesions discovered after death. This would be to initiate the ignorant, who, on watching the dissector's knife, are willingly persuaded that no human means could cure an empyema, or a sphacelated bowel. The congestion, effusion, and apparent inflammation, which too often lead the pathologist astray, are generally formed in the last hours of life, and probably in a great measure after all rational hope of a cure had been entirely abandoned.

This is one of the dangers that continually beset the inquirer into morbid anatomy. He no sooner discovers in a few cases of the same disease a similar lesion, than forthwith he supposes it to be the sole cause thereof, or rather to be the disease itself. But have we not cases innumerable of gastritis and encephalitis, which were never attended with the symptoms of delirium tremens? Have there not been cases without number, of these lesions which were not attended with

remittent bilious, or with typhus fevers? *Certainly*, must be the answer. Is there not then some undiscovered entity which is the proximate cause of these diseases? *It is possible, but since we cannot find it, we are bound by the acknowledged maxim of legal evidence to presume that it does not exist.* Such must be the answer of a candid pathologist, who refers remittent bilious fever to an inflammation of the stomach, or a typhus fever to a meningitis. But here he permits himself to forget that he is not omniscient, and that many things exist which are altogether beyond his reach, and far above all mortal inquiry.

But mark how this hasty generalization leads the patient astray. In an old-fashioned enteritis, or meningitis, do we not suddenly bleed the patient almost to death, in order to rescue him from certain fate, and do we not save many lives thereby? But who does this—or any thing similar in a typhus, or even in a remittent bilious fever. We bleed in both it is true, but not with the same impetuosity as in a common local phlogosis. Here again the *juvantia et ludentia* establish the diagnosis, and direct our attention to a group of symptoms which, revealing as they do a certain state of the body and its relation to certain methods of cure, our way is plain, and our success is ensured by knowing that we tread in the footsteps of those who are more learned and wise than ourselves. Thus it was that the ontologists, to use the fashionable but unjust and ridiculous cant of the day, treated the spotted fever with the most astonishing success, and yet to all human eyes their method was in direct contradiction to their best pathological judgment.

Let it not be supposed, for one moment, that we undervalue morbid anatomy; on the contrary, we contemplate its progress with infinite pleasure, and are ready to predict for the next generation from the labours of the present, many important and truly useful discoveries; but we should wish to see it for the present a mass of facts, and not of theories, a volume of important truths equally divested of opinions and fables. In many cases it already sheds abroad an infallible light, but in others it is an *ignis fatuus* which, in the hands of a devious spirit, is but too well calculated to lead the unwary astray. In fact, it is like the pulse, a "*res fallacissima*" in many cases, and can only be true and useful when considered in correlation with a great variety of facts and reasonings, but particularly with the known effects of medicines, and with the established methods of cure.

Consider then for one moment how plainly this can be illustrated by the disease before us. Dr. Staughton thinks he proves by nume-

rous dissections; that delirium tremens is an inflammation of the stomach, and yet he would propose to cure it by emetics—why? for no other reason surely than that he supposed emetics had been found useful by experience; but Broussais has found that remittent fever is a gastritis also, and condemns emetics—why? because experience had long determined that they were injurious in all inflammations of the stomach. Now, it appears to us that the true eclectic upon finding the stomach inflamed in delirium tremens, would have reasoned thus—

“In the first place, this man has long been in the habits of intemperance, and this phlogosis may be chronic. Secondly, it could not have produced the symptoms of delirium tremens, or they would more generally attend gastritis, they would result from poisons, and from external violence, which is never the case. Thirdly, the method of curing gastritis is the very antipodes of the cure for delirium tremens. Fourthly, had this gastritis been the cause of those symptoms, they would always be aggravated by those stimulants that are known to cure them. Fifthly, suppose the stomach to be inflamed during chronic intemperance or a recent debauch, would not the method of preventing delirium tremens therefrom, be to abstract all spirits at *once*, reduce the patient as for a pleurisy, and give him a suitable portion of gum water?”

For these and many other reasons, says the eclectic, we must look further for the *morbis ipse*.

In the next place he finds the brain, or its meninges inflamed, and a similar course of reasoning proves to him, that neither is this the proximate cause; and further, the *juvantia et lædientia* have long shown him that even this, bad as it appears, is to be prevented or driven away by stimuli, as in spotted fever, or all his patients must die.

*Northumberland, Pa. June, 1830.*

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ART. IX. *Case of Tubero-Carunculoid Liver*. By THOMAS H. WRIGHT, M. D. Physician to the Baltimore Alms-house Infirmary.

IN a report in the number of this Journal for November last, detailing certain forms of hepatic pathology, there is a case described as an instance of carunculation, or “fleshy vegetation” of the liver. The following appears to belong to the same class, but representing the tubercular character, in a different aspect. The rarity of those forms may render this case also worthy of notice, and I therefore give a